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ABSTRACT

To provide an objective statement of how a wide range of students at the University of Texas at El Paso performed on a test measuring verbal basic skills, a computerized analysis of variance compared group mean scores on a test of basic skills competence for 1,553 students in 6 groups, including graduating seniors and students in 4 levels of English courses. A manual analysis of the computerized "Question Analysis Report" compared performance of beginning basic writing students and junior-level technical writing students on individual test items. A manual tabulation compared group percentage scores on the basic skills test, the equivalent hypothetical letter grades, and verbal Scholastic Aptitude Test (SAT) scores for year of college entry for each group. Results showed that significant differences existed between the means for seniors and basic writing students both before and after instruction. No other significant differences were apparent. Students in the junior-level course and those in the basic writing course tended to miss many of the same items on the test. Groups who had entered the university with relatively low verbal SAT scores received relatively low scores on the test of basic skills competence. Recommendations included repetition of the study; increasing emphasis on the basic skills of standard written English and vocabulary growth, along with intensification of writing and speaking activities in all English courses; implementation of curriculum changes; and extension of writing across the curriculum activities. (HOD)

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Performance of Six Levels of Students on a "Test of Basic Skills Competence"

Carlene Walker

June 1982

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I. Background and Summary

Background

Declining Scholastic Aptitude Test scores and public charges that the American educational system has failed to produce literacy in its students have mandated critical examination of all aspects of education. Basic to such critical examination of a particular phase of education is an accurate description of the existing situation. This study was designed to provide an objective statement of how a wide range of students at The University of Texas at El Paso performed on a test measuring verbal basic skills.

Two factors led to the investigation. One was the focus of concern about student achievement in verbal skills demonstrated by three campus administrators in 1980. Dr. Joseph Olander, academic vice-president, sponsored a test in basic skills for seniors who volunteered to take the test. Dr. Diana Natalicio, Dean of the College of Liberal Arts, declared Freshman English a top priority. Dr. Larry Johnson, Chairman of the Department of English, stated that a major concern of the department must be to look critically at what its programs had accomplished in the past and to communicate the findings to the rest of the University.

The other factor was the similarity between national and local Scholastic Aptitude Test scores. The decline in national scores, constant since 1963 except for the slight reversal reported in 1982, has been paralleled by declining scores of entering freshmen at this institution. For example, the mean verbal Scholastic Aptitude Test score for all students entering in

1976 was 395, compared to 372.8 for those entering in 1981; these figures represent an average decline of four and one-half points each year.

Summary

The study compared means for six groups in a total sample of 1,553 students who took a "Test of Basic Skills Competence." Further, it examined performance on individual test items for two groups. Finally, it compared the verbal Scholastic Aptitude Test mean score in the entering year of each group with a percentage score and hypothetical grade for that group on the "Test of Basic Skills Competence."

Results showed that the mean for seniors was higher than that of any other group. Statistically significant differences existed, however, between no groups other than seniors and students in a basic writing course. On individual test items, students in a junior-level course performed similarly to students in a basic writing course. The percentage score for all groups was 63 (hypothetical grade of D), and the mean verbal Scholastic Aptitude Test score for all groups was 381, compared to the national verbal mean of 431 for college-bound high school seniors.

Recommendations included repetition of the study; increasing emphasis on the basic skills of Standard Written English and vocabulary growth, along with intensification of writing and speaking activities, in all English courses; implementation of curriculum changes; and extension of "Writing Across the Curriculum" activities.

II. Procedures

The study used scores on the "Test of Basic Skills Competence" from the College-Level Basic Skills Test Series by Richard W. Burns and J. Paul Scarbrough. The test included 110 items. Twenty-five items tested spelling, thirty items measured grammar-usage-expression, thirty items dealt with punctuation, and twenty-five items tested vocabulary.

A group of 261 seniors volunteered to take the test in May 1980. Students in three levels of Freshman English courses took the test in Fall 1980 near the end of the semester, and students in both a Freshman and a Junior-level English course took the test in Fall 1981 near the beginning of the semester. The sample of students in English courses totaled 1,292 and included those enrolled in 3110 (Basic English Composition) before and after instruction, 3111 (Expository English Composition) after instruction, 3112 (Research and Critical Writing) after instruction, and 3359 (Technical Writing) before instruction. The total sample of 1,553, including seniors, represented six levels of students.

Test scores for students in English courses were computerized, and permission was received from Barbara Prater, Director of Institutional Studies, to use the seniors scores stored in the computer. Russell Sype, Computer Center Program adviser, performed an analysis of variance on all scores and determined the significance levels.

A "Question Analysis Report," available only for Fall 1981 students taking the test, and the "Test of Basic Skills Competence" were analyzed to compare performance on individual test items by beginning 3110 and 3359 students. The Harper Handbook of College Composition was used, when necessary, to describe test items.

The appropriate verbal Scholastic Aptitude Test mean for all freshmen entering the University in either 1976, 1980, or 1981 was assigned to each of the six groups. Finally, the percentage of total possible points on the "Test of Basic Skills Competence" was calculated for each mean, and a hypothetical grade equivalent was assigned for the percentage.

III. Results

Differences Between Groups

The mean for graduating seniors was 17.62 higher than that for beginning 3110 students and 11.96 higher than that for 3110 students after instruction. Means for the 3111, 3112, and 3359 groups showed a difference of less than one from each other. Differences of fewer than four points existed between any of the means for these groups and the mean for seniors. (See Table I.)

Analysis of the data by two different methods revealed only three statistically significant differences in means. Means for beginning 3110 students and graduating seniors differed significantly at the 10 percent level of confidence, as determined by the Fisher Least Significant Difference approach. The mean for 3110 students after a semester of instruction, as well as that for beginning 3110 students, differed significantly from the mean for graduating seniors, as determined by the Boneferroni t-test. Significant differences between no other groups were revealed by either the Fisher or Boneferroni approach.

Performance Patterns on Specific Test Items

Despite the fourteen-point difference in the means for the beginning 3110 group and the 3359 group, a similar pattern existed between the two groups in performance on specific items in all areas of the test.

Over half of both groups missed the same five spelling words. with a range of 1 percent to 15 percent difference. Fifty percent or more beginning 3110 students also missed three other words. (See Table II.)

Over half of both groups missed the same three items in the

Table I

Summary of Data

Group	Identification	Number of Cases	Mean	Standard Deviation
A	3110-before instruction-Fall 1981	229	58.00	11.64
B	3110-after instruction-Fall 1980	266	63.66	11.29
C	3111-Fall 1980	330	72.90	10.36
D	3112-Fall 1980	116	72.01	10.78
E	3359-Fall 1981	90	72.00	12.30
F	Seniors	261	75.62	12.24

Table II

(Spelling) Test Items Missed by 50% or More
Beginning 3110 or 3359 Students

Word	Percent 3110 Students Missing Word	Percent 3359 Students Missing Word	Difference
irascible	85	84	1
gluttonous	72	64	8
accommodate	70	60	10
tyrannical	64	52	12
remunerate	86	70	16
imperturbable	74	Less than 50	--
unintelligible	66	Less than 50	--
bellicose	54	Less than 50	--

grammar-usage-expression part of the test, with a range of 1 percent to 10 percent difference. Half or more of beginning 3110 students also missed six other items in this category. (See Table III.)

Over half of both groups missed the same four items in the punctuation section of the test, with a range of 2 percent to 10 percent difference. On one punctuation item, 3359 students showed a higher percentage missing than did the lower-level students. However, half or more of beginning 3110 students also missed five other items in this part of the test. (See Table IV.)

Over half of both groups missed the same fifteen items in the vocabulary section, with a range of 1 percent to 30 percent difference. On two vocabulary items, 3359 students showed a higher percentage missing than did lower-level students. However, more than half of beginning 3110 students also missed five other items in this section. (See Table V.)

Comparison of Verbal SAT Scores with Percentage and Hypothetical Grade Equivalents for Test Means

With seniors assumed to have entered the University in 1976, their verbal Scholastic Aptitude Test mean was twenty-two points higher than that of 3110 students entering in 1981 and nineteen points higher than that of the four groups entering in 1980. The mean for all groups was fifty points below the 1976 national average of 431 for college-bound high school seniors. (See Table VI.)

Calculation of percentage-correct figures from group means showed no group scoring higher than 69 percent, with a score of 63 percent for all groups. Seniors showed the highest percentage, with 3111 students ranking next. Students in 3110 before instruction

Table III

(Grammar-Usage-Expression) Test Items Missed by 50% or More Beginning 3110 or 3359 Students

Content of Test Item	Percent 3110 Students Missing Item	Percent 3359 Students Missing Item	Difference
spoil Ed and I, myself, me	63	62	1
sure ought to, surely should, ought surely to	69	63	6
it will be he, him, them	90	80	10
these kind, kinds, type	62	--	--
ought not, ought not to, oughtn't to	61	--	--
can, can't do nothing	58	--	--
departure of, from, to the meeting	55	--	--
better of, gooder of, best of the two	54	--	--
has drink, dranked, drunk	54	--	--

Table IV

(Punctuation) Test Items Missed by 50% or More
Beginning 3110 or 3359 Students

Item	Percent 3110 Students Missing Item	Percent 3359 Students Missing Item	Difference
Comma to separate parenthetical element	60	58	2
Semicolon to separate series following comma	59	56	3
Comma to separate co-ordinate adjectives	69	74	5
Parentheses to enclose explanatory element	68	58	10
Colon to introduce series	67	--	--
Semicolon to separate series following colon	58	--	--
Comma to separate parenthetical element	56	--	--
Parentheses to enclose explanatory element	54	--	--
Comma to separate introductory prepositional phrase	52	--	--

Table V

(Vocabulary) Test Items Missed by 50% or More
Beginning 3110 or 3359 Students

Item	Percent 3110 Students Missing Item	Percent 3359 Students Missing Item	Difference
obviate	80	81	1
vacuous	81	83	2
junket	95	89	6
defray	99	88	11
ductile	81	66	15
quibble	73	58	15
circuitous	76	60	16
divest	80	62	18
excise	69	51	18
parley	78	60	18
unmitigated	90	69	21
savoir-faire	89	66	23
refute	83	60	23
transient	90	63	27
nominal	82	52	30
symposium	81	--	--
cleave	73	--	--
maraud	72	--	--
grimace	71	--	--
reposeful	69	--	--

Table VI

Comparison of V-SAT Scores with Percentage and Hypothetical Grade Equivalents for Test Means

Group	Mean	Percentage; Equivalent "Grade'	Verbal SAT Score; Entry Year of Group
3110-before instruction	58.00	53 / F	372.8 (1981)
3110-after instruction	63.66	58 / F	375.8 (1980)
3111	72.90	66 / D	375.8 (1980)
3112	72.01	65 / D	375.8 (1980)
3359	72.00	65 / D	375.8 (1980)
Seniors	75.62	69 / D+	395 (1976)
All Groups	69.03	63 / D	381 --

National 1976 average for college-bound high school seniors on verbal SAT - 431

showed the lowest percentage, and 3110 students after instruction showed a gain of five points over beginners. Seniors showed a gain of four points over the 3112 and 3359 groups and a gain of three points over the 3111 group. (See Table VI.)

Assigning of hypothetical grades to percentage values gave grades in the D range to 3111, 3112, 3359, and senior groups and a grade of F to both 3110 groups. (See Table VI.)

IV. Conclusions and Discussion

Conclusions

Several limitations of the study existed. They included the following: (1) the senior sample represented 251 volunteers out of 689 seniors; (2) the test was given without a standardized procedure for administration; (3) performance of groups, not individuals, was examined; (4) the time of collection of data spanned eighteen months rather than a possibly more desirable one-semester period; (5) all groups were not tested at the same time of the semester; and (6) the instrument used lacked national norms.

Despite these limitations, the study provided an objective description of how over a thousand students, ranging from entering freshmen to graduating seniors, performed on a single instrument designed to measure competency in verbal basic skills. It further provided a comparison between performance on this test and on the verbal section of the Scholastic Aptitude Test.

Analysis of the data warranted the following four major conclusions:

1. Differences existing between groups were not large.
2. The small difference between the mean for seniors and the means for lower-level students enrolled in English courses suggests that participation in an English course tends to heighten awareness of verbal basic skills.
3. Seniors and beginning 3110 students performed in a similar manner on individual test items.
4. Groups of students in this study, having received relatively low verbal Scholastic Aptitude Test scores, achieved on the basic skills test in a manner consistent with the prediction of the aptitude test.

Discussion

Conclusion 1. Although seniors showed a higher mean than that of any other group, the differences seemed less than might be expected to occur during eight semesters of college. (See Figure 1.) Furthermore, only three statistically significant differences appeared, even with the use of relatively liberal tests of significance.

The low mean for beginning 3110 students was expected because the student usually enrolled in this course has scored thirty-nine or less on the Test of Standard Written English in the Scholastic Aptitude Test. The mean gain of five and one-half points made by 3110 students after instruction indicated the course effected some growth, perhaps because of course emphasis on verbal basic skills.

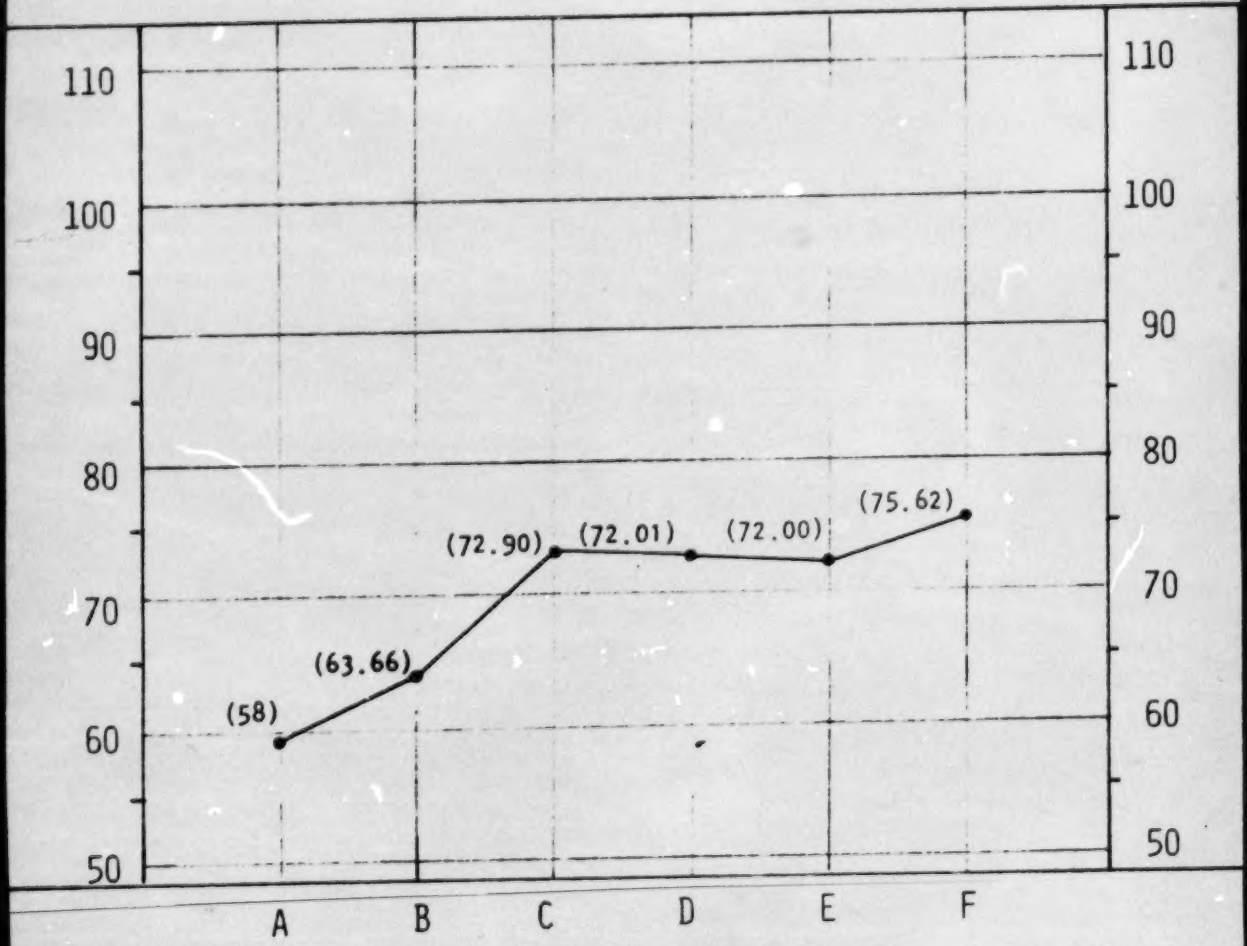
The mean for 3111, showing an eight-point gain over that for 3110 after instruction, indicated the course provided opportunity for further growth in use of basic skills. Such growth was possibly due to the extensive amount of writing and revision-rewriting required of students in the course.

Although 3111 seemed to effect growth in basic skills, it also marked the beginning of a plateau in performance that reached through both 3112 and 3359. It is possible that students in the two higher-level composition courses, faced with emphasis on advanced writing techniques and skills, tended to pay less attention to furthering their mastery of the basics of spelling, grammar-usage-expression, punctuation, and vocabulary.

Conclusion 2. The relatively small difference between the mean for seniors and the means for lower-level students enrolled

Figure 1

MEANS OF GROUPS
ON 110-ITEM TEST



A-3110 BEFORE INSTRUCTION
B-3110 AFTER INSTRUCTION
C-3111
D-3112
E-3359
F-SENIORS

in English courses suggests that students in any English composition course may have tended to pay closer attention to verbal basic skills than did seniors not enrolled in such a course. It is possible that seniors, mostly involved in courses stressing content and requiring little or no formal use of written or oral English, tended to stagnate, but not actually regress, in their mastery of verbal basic skills.

Conclusion 3. Seniors and beginning 3110 students performed in a similar manner on many individual test items. Although more than half of the seniors successfully answered more items in all areas than did beginners, seniors tended to miss many of the same items missed by beginning students. (See Figures 2, 3, and 4.) This finding may indicate that mastery of certain points covered in the basic skills test depends on some function other than level of schooling. The close performance of seniors and beginners on the vocabulary section indicates a pronounced weakness in the recognition vocabularies of both groups. (See Figure 5.)

Conclusion 4. Groups of students in this study, having earned relatively low verbal Scholastic Aptitude Test scores, seemed to achieve on the basic skills test in a manner consistent with the prediction of the aptitude test. The mean for all groups taking the Test of Basic Skills Competency equated to a 63 percent performance, or a hypothetical grade of D, representing the lowest fourth of a traditional grading scale. The verbal Scholastic Aptitude Test mean for all groups ranked at slightly below the fortieth percentile for college bound seniors nationwide in 1978. These findings suggested that students who entered college with a low verbal aptitude scores actually achieved at a similar low level on the Test of Basic Skills Competency.

Figure 2

(SPELLING) TEST ITEMS MISSED BY 50% OR MORE

BEGINNING 3110 AND 3359 STUDENTS

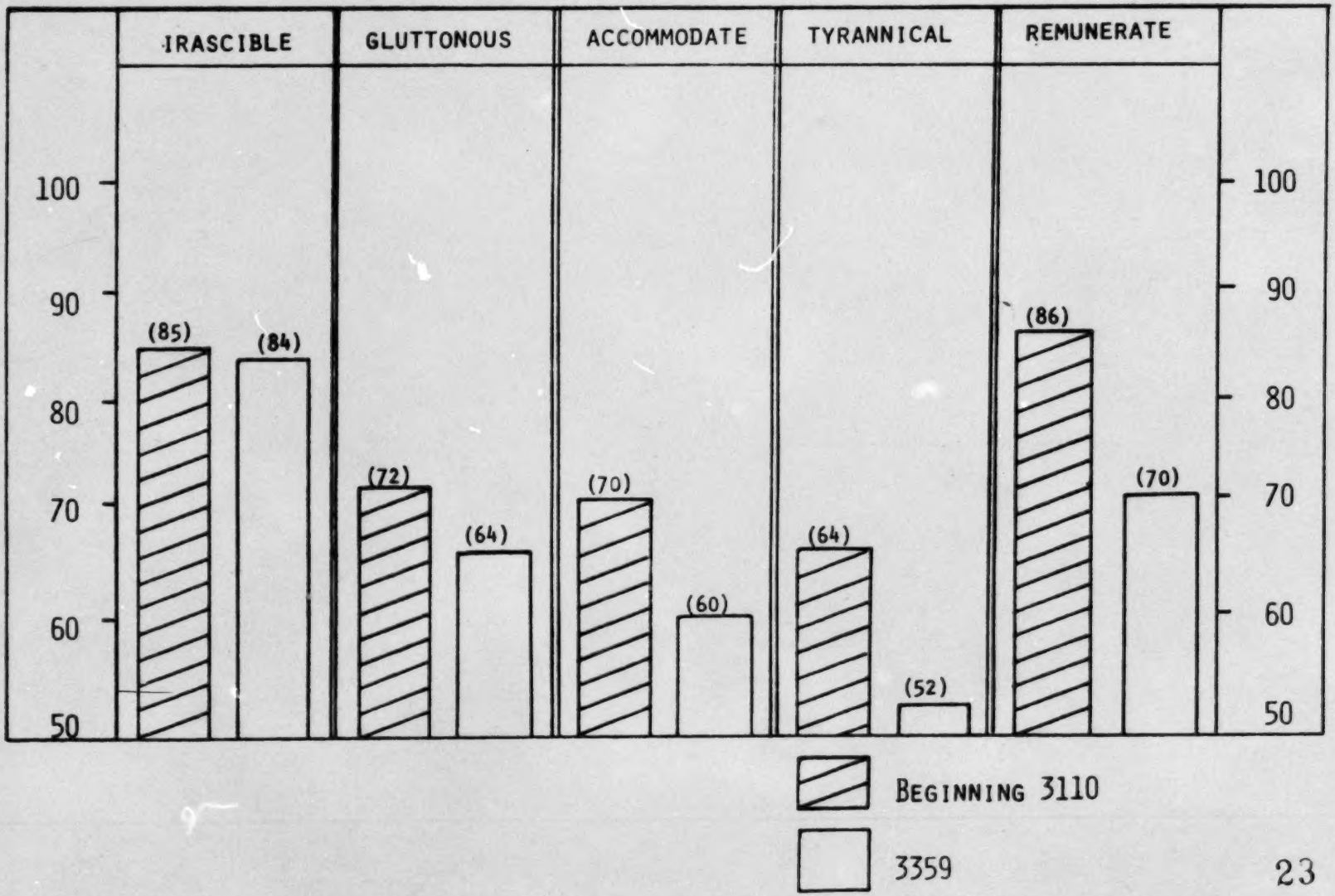


Figure 3

(GRAMMAR - USAGE - EXPRESSION) TEST ITEMS MISSED BY 50% OR MORE BEGINNING 3110 AND 3359 STUDENTS

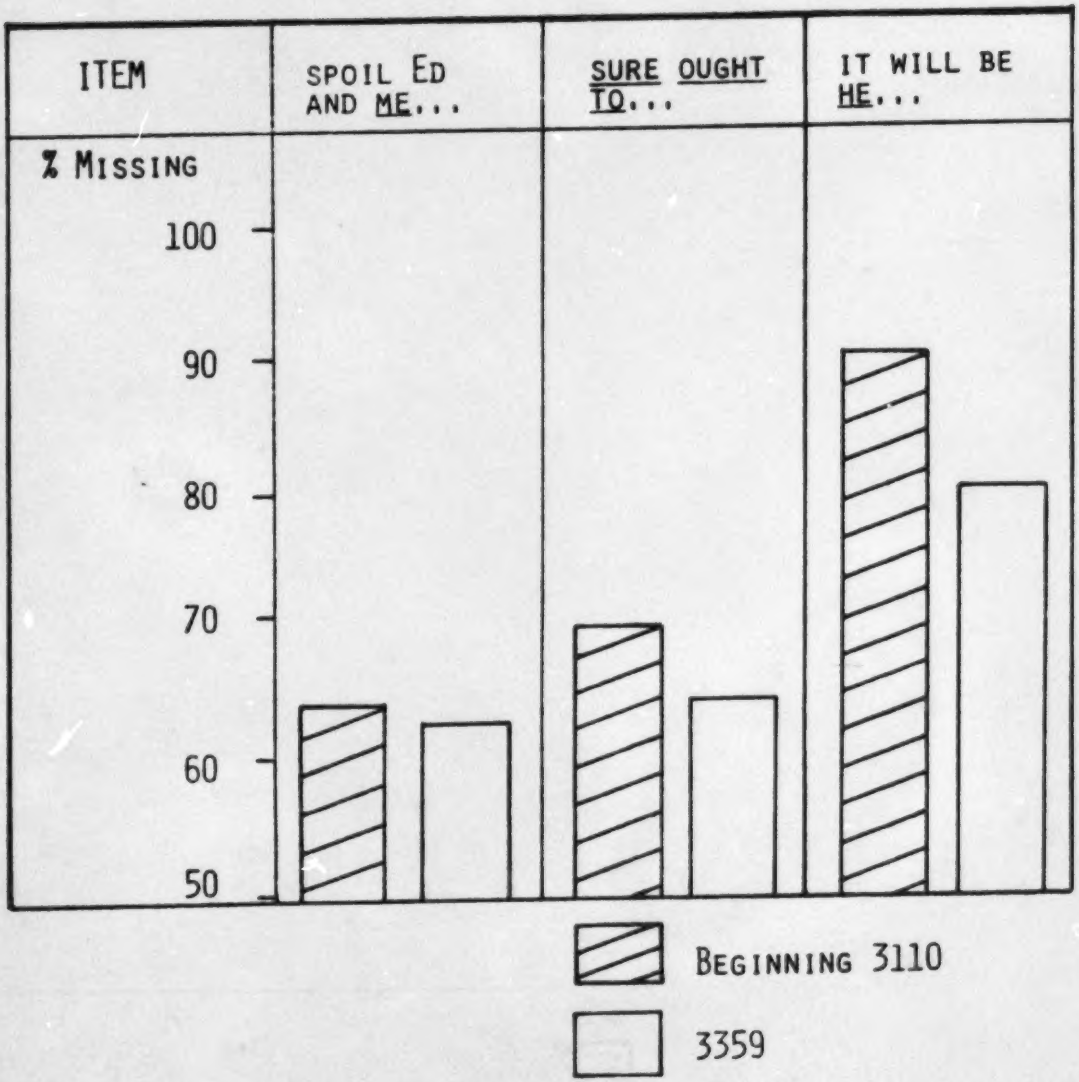


Figure 4

(PUNCTUATION) TEST ITEMS MISSED BY 50% OR MORE

BEGINNING 3110 AND 3359 STUDENTS

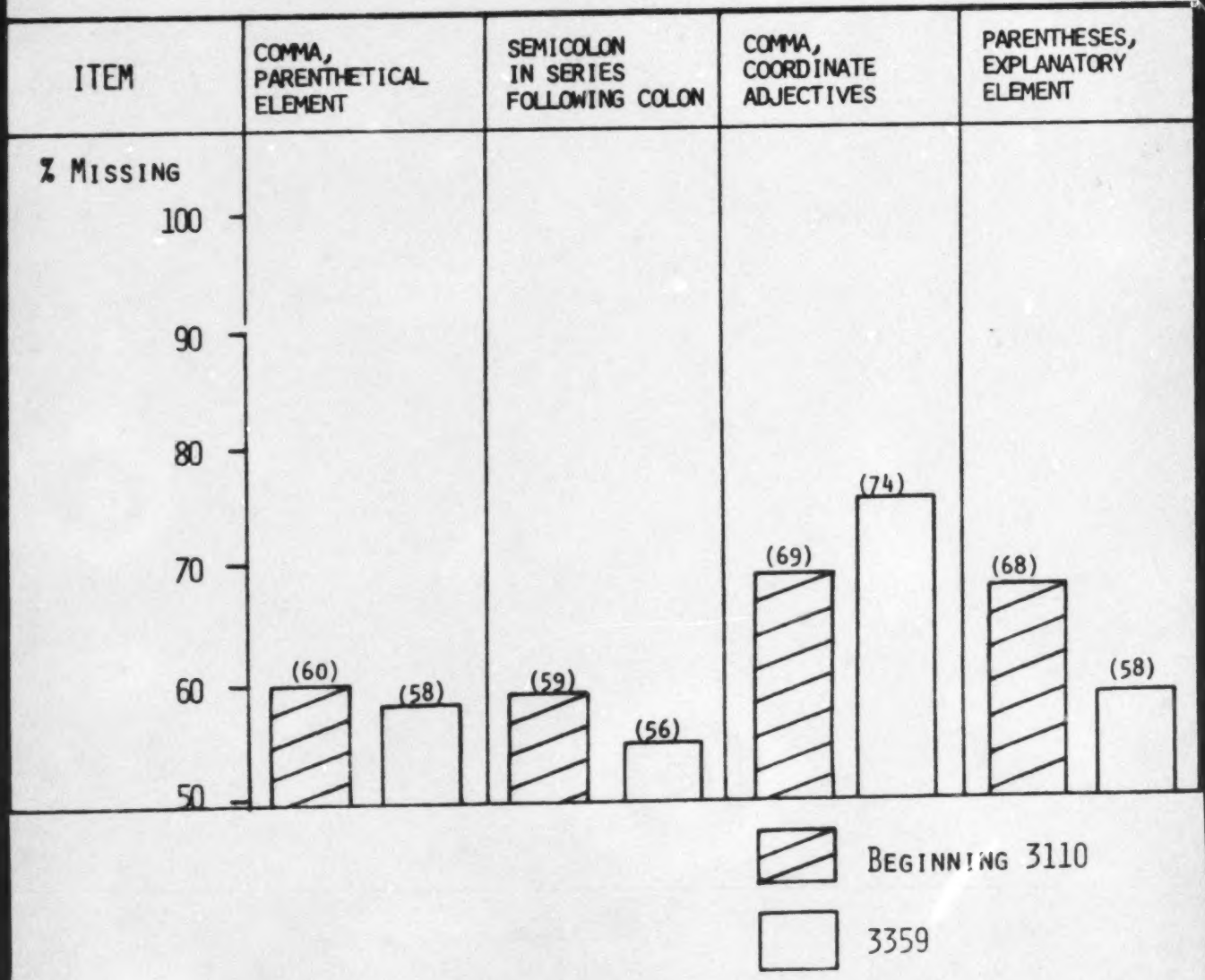
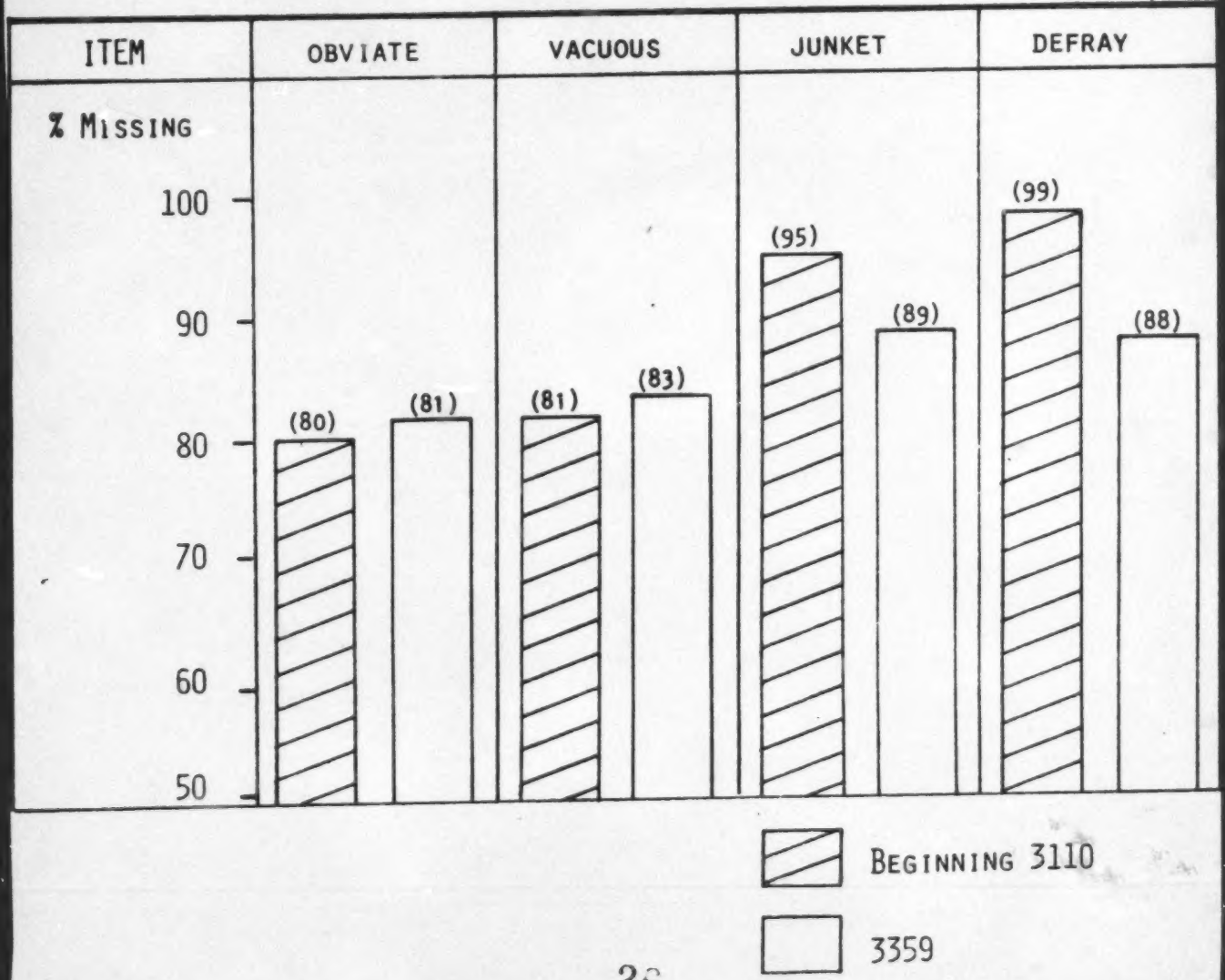


Figure 5

(VOCABULARY) SELECTED TEST ITEMS MISSED
BY 50% OR MORE BEGINNING 3110 AND 3359 STUDENTS



V. Recommendations

On the basis of the results of this study, it is recommended that:

1. The study be repeated, using a nationally standardized test of verbal basic skills, to validate the findings of this study and to indicate how University of Texas at El Paso students compare with students at other institutions.
2. All English courses increase emphasis on the necessity for growth in the basic skills of Standard Written English and vocabulary development, while intensifying practice in speaking and writing experiences for students. (An objective test of verbal basic skills should be included as part of the final examination in all English courses.)
3. Definite curriculum changes be implemented to provide all students more intensive and extensive course work in the use of college-level language skills. Suggested changes include the following:
   a. Incoming freshmen with low verbal Scholastic Aptitude Test scores should be required to take a year-long course in basic reading and writing skills before being admitted to the regular sequence of traditional composition courses. This course should be taught on a daily basis to provide intensive use of Standard Written English, and it should be provided with ample support services to augment class instruction and practice. Students should be allowed to repeat the course without grade-point penalty until they meet course exit requirements.

b. All students, including those who have mastered the content of the basic reading and writing course, should be required to complete two semesters of Freshman English courses which emphasize composition and the internalization of verbal basic skills.

c. All students should be required to take a junior-level composition course closely allied with the literacy and composition skills used in their major disciplines.

4. Present "Writing Across the Curriculum" activities be extended and actively supported by the entire University faculty and administration.

Finally, implementation of these recommendations would increase student awareness of and appreciation for the University's commitment to provide for its students extensive opportunity to gain the unquestionable advantage of a high level of verbal literacy.